

*Inaugural Lecture of
Joan Dye Gussow
as
Mary Swartz Rose Professor
of Nutrition and Education*

May 3, 1988

Welcoming Remarks

*P. Michael Timpane, President
Teachers College*

Remarks

*Isobel Contento, Chair
Department of Nutrition and
Education*

Introduction of Speaker

P. Michael Timpane

*"Women, Food, and
the Survival of
the Species"*

Joan Dye Gussow

Closing Remarks

P. Michael Timpane

P. Michael Timpane

Good afternoon, ladies and gentlemen. My name is Michael Timpane; I'm the president of Teachers College. It is my pleasure and my delight to welcome you here this afternoon for the inaugural lecture of the Mary Swartz Rose Professorship of Nutrition and Education at Teachers College.

Nutrition Education, as all of you know as well as and in most cases better than I, was the field that was pioneered here at Teachers College nearly 80 years ago when Mary Swartz Rose began to teach and, as was the charming custom in those days at Teachers College, while teaching to invent a field of study *en passant*, it seemed. People were able to do such things in those days with miraculous powers that seem to be given to few of us in the contemporary age, and Mary Swartz Rose was one of those greats in the early history of Teachers College who invented her field, indeed, as she taught it and as she practiced it. She was a leader. She was not alone in her career. Throughout those years she was joined by others steadily, students and faculty, and some of those who knew Professor Rose and worked with her are with us this afternoon.

I would like, in that regard to pay special tribute to Orrea Pye, who has joined us today, professor emerita of nutrition education at the College who was, herself, one of Mary Swartz Rose's students and colleagues, and a friend for many years. Professor Pye was instrumental in establishing the Mary Swartz Rose professorship and in fact started urging the tradition of such a professorship nearly 30 years ago. It took us a few years, Orrea, but we made it. I am simply delighted and I know what a special afternoon this is for you, and you add much to it by being here with us today. I should like also to mention just one or two of the other persons that have been the strongest and most stalwart supporters of nutrition education at Teachers College in the past generation who also have had more than a little to do with the building of the department and of this professorship. One of course is Hans and the late Ella Vahlteich. Hans is in Cleveland today and could not be with us, but I know that we miss him here and that he would have been simply delighted to be with us. He has been a very strong supporter and benefactor of this professorship and of this program for many years and similarly Bertlyn Bosley, who is not here today but has on this occasion written to Joan

Gussow, Orrea Pye, and the Nutrition Education program offering "Congratulations to you, the College, and the many friends and supporters who made the establishment of the Mary Swartz Rose Professorship possible."

I would now like to introduce for the purposes of further and deserved elaboration on the person and the career of Mary Swartz Rose, Professor Isobel Contento, the Chairman of our Department of Nutrition Education.

Isobel Contento

We have just heard of the important role Dr. Orrea Pye has had in bringing about the Mary Swartz Rose Chair. It should remind us also that Clara Mae Taylor, who was also a student of Mary Swartz Rose, was also very involved and interested in bringing about the Chair. She died a few months ago and we are very sorry that she cannot be with us at this particular time.

I would like to share with you some facts about the life of Mary Swartz Rose, and I am going to do so by quoting excerpts from remarks that were given by Dr. Pye in October last year on the occasion of the establishment of the chair. I tried to persuade Dr. Pye to give these remarks herself, but in her usual self-effacing way she declined; so here I am.

Mary Swartz Rose entered Teachers College in 1905 to work toward a Bachelor of Science degree in chemistry under Professor Henry Sherman in the Department of Chemistry at Columbia and a diploma in dietetics at Teachers College. Dr. Sherman was also on the staff at Teachers College as a lecturer in nutritional chemistry, then an emerging field. James Earl Russell, Dean at Teachers College, was an administrator who desired a well-balanced and educated staff and encouraged women leaders in the then Department of Household Arts. He granted the then Mary Swartz a traveling fellowship in 1907 to study physiological chemistry—the scientific rationale of nutrition—at Yale University under Professor Lafayette Mendel (who was a personal friend of Dean Russell's and a foremost biochemist) with the agreement that Mary Swartz would return to Teachers College with her Ph.D. to develop a program in nutrition education at Teachers College. This she did in 1909 and therefore, we are going to cele-

brate our 80th birthday next year and are planning a conference. I hope you will all come.

In 1910 she was married to Anton Rose, a fellow student at Yale, and had a son in 1915. Thus Mrs. Rose was a pioneering woman in combining a demanding career with home and family life. In the beginning of the century, women interested in science found nutrition a challenging new field. Mrs. Rose combined the needed intellectual abilities and human concerns to take varied roles, and I will go through a few of the roles that she had.

She was first of all a researcher. She advanced knowledge of various kinds of foods and explored the human requirements for various minerals and vitamins, especially iron. She also conducted dietary studies and she was involved in some studies on energy metabolism. Some of her articles are remarkably relevant today, such as "The Influence of Bran on the Alimentary Tract" or "The Utilization of Calcium From Various Foods, Including Carrots" (I never knew that carrots have a lot of calcium). Anyway, many of her articles will be on display in the Grace Dodge Room, and I hope you will take a look at them later. She was also a translator of nutrition science into practical terms for the use of homemakers and their families. She was a nutrition educator who pioneered in developing ways of teaching nutrition to boys and girls. She was a woman who had the vision to see the international implications of nutrition and served on the Technical Commission of Nutrition under the League of Nations.

Mary Swartz Rose was the author of over 100 publications—articles ranging in scope from the *Ladies Home Journal* to the *Journal of Nutrition* (the most prestigious nutrition science journal at the time). She also wrote several books that became standard texts at the time, called *Foundations of Nutrition*, *Teaching the Family*, and *Teaching Nutrition to Boys and Girls*. She was one of the founders of the American Institute of Nutrition and its first woman president. She founded the Food and Nutrition Council of Greater New York and was active in the American Dietetic Association. She died prematurely in 1941.

Mary Swartz Rose taught approximately 11,000 students: majors in nutrition, students from the chemistry department at Columbia, as well as students from nursing science education and other related areas. Many were also from other countries. Mrs. Rose was a woman of considerable charm who was equally at home with the

scientists in nutrition-related specialties, as with colleagues at Teachers College, and she was also very much at home with those in the schools and the communities where she was always active. Her portrait in the Grace Dodge Room indicates to some degree her friendliness and attractiveness. I hope you will take a moment to identify her when you attend the reception following Joan's speech.

Obviously, Mary Swartz Rose is very deserving of having a professorship named after her.

P. Michael Timpane

In academic life, creating a new professorship is a kind of Promethean act and something, I am sorry to say, that we are not able to do very often. We like to celebrate mightily on those occasions that we do because an endowed and named professorship has a permanence (not simply a financial permanence, though it has that) but a permanence of commitment attached to it which makes it one of the emblems of the institution in which it sits; and this of course is the case today. This is the first named chair that has been created since I have been president of the College and while many allow me the illusion from time to time that I have had a lot to do with it, I had little to do with it except to have the happy pleasure of presiding over the completion of labors which began, as I said earlier, fully a generation ago with Orrea Pye. It could not be more appropriate; this seems to me to be a distinctively Teachers College chair. This chair could hardly exist anywhere else. The field, the name, the auspices, and the first incumbent are ours, all ours very specially in a way that is true of few other fields, names, auspices or incumbents.

Joan Gussow is, of course, the first Mary Swartz Rose professor. She has moved throughout her adult life in family and profession and academy to a fierce preoccupation with nutrition as a central and sadly neglected question too often overlooked in contemporary life. She became seriously academically interested when she enrolled at Teachers College and began her study with Professor Pye and others and earned her doctorate of education in 1975. In that same year as a macabre sort of reward, we made her the chairman of the Department of Nutrition and Education, a position she held until 1985. She is the author of *The Feeding Web, Issues in Nutritional Ecology*; coauthor

of *The Nutrition Debate* and *Disadvantaged Children, Nutrition and School Failure*; and coeditor of *Food As A Human Right*. The titles of her books and the title of her lecture today should leave no doubt that Joan proudly carries the dual titles of scholar and activist and does so without any compromise to either. When Joan talks about food, you know as well as I what Joan talks about: she talks about social policy, technology, global interdependence, and the role of women in contemporary society. It is probably a case that all good and prominent nutrition educators must be forceful advocates in one way or another. Mary Swartz Rose certainly was; Joan Gussow certainly is. I am proud to present her to you today for the Mary Swartz Rose Inaugural Lecture in Nutrition Education. Joan.

Joan Dye Gussow

I felt that I should probably begin by making thank yous all around, and, as I thought about that coming into the city today, it occurred to me that I might have dressed like Cher for the Academy Awards, but I was afraid it wouldn't have the same effect.

I do want to thank Mike for that very nice introduction and for giving me a chair to sit in and to thank Isobel for being a friend and colleague and for taking over the chair of the department so I could take this chair, because I don't think I could have done both. And I want to thank Orrea for teaching me, challenging me, being upset by me sometimes, and ultimately accepting me, and for working for 30 years to make this chair possible. And finally, I want to thank my female colleagues in this profession who allowed me to be a gadfly when I really didn't know enough to do it, and who didn't discourage me so that I was able to go on and learn enough to do it intelligently. Thank you very much.

It goes without saying that it is a great honor to be here this afternoon, not the least because of the quality—which you have already heard about—of the woman in whose chair I am being seated.

This has been an extraordinarily difficult speech for me to write as everyone who knows me knows—my poor husband most of all who had to live through assorted versions. Since I usually speak easily, I have tried to understand why it was so difficult, and I decided that it has something to do with the fact that this particular

audience is made up at least partly of my TC colleagues. But my anxiety arose also, I think, from the fact that I have wanted to say something that Mary Swartz Rose, if she were here, would have approved of.

As for the character of this audience, I usually speak to audiences who have asked to hear from me because they know what I am about. I am intellectually, I think, much more of a stranger at Teachers College than I am in many other places where I speak, a feeling some of you will no doubt find familiar. Therefore, I feel a need to acquaint you not only with the ideas that inspired my rather grandiose speech title but with some sense of where those ideas fit into the profession of which I am a part. That seemed to me a rather larger task than I would have time for, but in my usual fashion I tried to get it all in, so you are in for a rather rapid ride for about 45 minutes; brace yourselves. It is overly dense, I know, but that is just what you will have to live with.

Saying something that would have pleased Mrs. Rose has seemed to me a less difficult task because I have the impression that she was a very generous woman who would have easily forgiven me my limitations. (I call her Mrs. Rose, by the way, because Orrea Pye, who knew her well, says that is what everyone called her. I'm assuming she would have wanted me to call her Mrs. Rose, as well.)

I never knew Mrs. Rose. When she died I was a self-absorbed California teenager, busy getting tan and probably collecting fat and tin foil (which we called it then) for what was still a *defense* effort. She died in *February* of 1941. Pearl Harbor, I hasten to remind the increasing numbers of you who do not know what I mean when I say "The War," occurred in December of that year.

I first began to hear of Rose when I came to Teachers College in 1969 as a student, exactly 60 years after she became what we believe to have been the first full-time staff person in a nutrition program in the United States. When I began my own studies, I saw her as one of those venerable people from the venerable past of a venerable department. Her portrait hung in the room of another venerable named Grace Dodge. I was an aging and impatient student in a scientific field, and I naturally concluded that the venerable had nothing to say to me. Dr. Pye disagreed. As some of you know she is a woman of great persistence. She felt I ought to pay attention to my foremothers. And as I moved into teaching, she educated me by dropping things

on my desk including, in the late 1970s, the manuscript of the biography of Mary Swartz Rose. I learned from that manuscript that Rose was a woman who "had it all," back before most of us even knew there was an "all" to have. She had a husband, a child, a home and garden in the country, and a full-time career in the city. She held a Ph.D. in biological chemistry from Yale and published extensively in the scientific literature. She also took seriously her role as leader of a department in a school of *education*, initiating and carrying out a great variety of educational projects, including one during World War I that required her, in her words, to "sweep a tank off the steps of the Public Library" in order to put a food conservation exhibit there. And she did all this—if the reports of her contemporaries are to be believed—with apparently inexhaustible energy, intelligence, compassion and humor.

Rose was, in fact, one of those predecessors who seem almost intolerably more accomplished than we have managed to be. It is comforting to tell oneself that it was easier then, that the world was simpler (that, at a minimum, help was easier to hire). There were, certainly, what appear from this distance to be levels of confidence in the meaning of our work not presently permitted the rest of us. There was so much to do in nutrition, so much to find out, so much to communicate, and all of it was so clearly worthwhile. The practical value of a new fact was so evident, the war effort so clearly noble, the value of saving food for our allies overseas so unquestioned. The middle years of the twentieth century have, I am afraid, made cynics of us all.

One looks wistfully back to a time when the unadorned fact, especially the "scientific" fact, had an intrinsic charm. Rose was an author, among hundreds of other documents, of a technical information bulletin first published by Teachers College in 1916. It is five cents worth of plain common sense—"Some Food Facts to Help the Housewife in Feeding the Family." It probably would not find a customer today even if it still cost a nickel; though the common sense she offered then still makes sense.

In wondering whether this remarkable lady would have approved of someone like me sitting in her chair, I remembered something Orrea Pye had said more than once. "What the Nutrition Department has always done," she said, "was to change when the times demanded it." Just recently speaking about this occasion she said, "I

am sure if Mrs. Rose were alive today, she would be looking at the problems of today and wondering how to help solve them.”

The problems have surely changed. But which of these changes are relevant to the task a nutrition educator ought to be setting herself? That is the question to which the title of this speech is meant to provide a somewhat obscure answer. I have found it useful, in thinking about how things have changed, to roughly dichotomize the century to date and take the year 1941, the year Rose died, as a kind of watershed after which nutrition as well as the world was transformed. Let me begin with what has happened to the science that underpins our teaching.

By the end of the 1930s, nutrition science was completing a very exciting era. Harvard Professor Emeritus Mark Hegstad has written about those times:

It was a simpler and in some ways a better time. We could expect a new vitamin or some other marvel to be announced at least yearly.... During those years, graduate students could barely wait to see new issues of the *Journal of Biological Chemistry* or the *Journal of Nutrition* to learn the latest discovery.... There was practically a unanimous opinion on what nutrition research had to accomplish. Clearly we had to identify all the essential nutrients.... We also had to define the requirements of each nutrient. It was not very useful to know that factor X was essential; we had to know how much of it was needed. Finally, we had to determine the distribution of each nutrient in various foods. With this knowledge we could define a nutritionally adequate diet or examine a diet and determine whether it was or was not nutritionally adequate.

Hegstad goes on to remark that this research agenda was probably naive; that his assessment is accurate is indicated by the fact that the profession has come close to public brawls over the last two and a half years over setting quantitative allowances (the RDAs) for nutrients that were already well characterized in the era that Hegstad wrote about. The era he is describing, however, is the sort of exciting research environment in which Mary Swartz Rose took up her work when she brought her new Ph.D. back from Yale. (Now I was going to mention that Dean James Earl Russell of Teachers College actually *paid* to send Mary Swartz to Yale to study under Lafayette Mendel, but Mike Timpane warned me against mentioning that. However,

Isobel has already blown it, so any of you who would like a fellowship to continue your studies at Yale, just speak to Mike.)

Here at Teachers College, Rose carried out studies on the digestibility and utilization of a variety of complex carbohydrates, from seaweed to rolled oats; and on the effects of bran fiber on protein utilization, on B vitamin absorption and on the functioning of the alimentary tract—topics that would seem timely in a nutrition seminar today. She examined a variety of foods—beef, muscle, liver, egg yolk, whole wheat and white flours, oats and bran—for their effect on iron absorption and/or hemoglobin regeneration. She studied the utilization of calcium from carrots, among other foods, and the absorption of vitamin A from almonds. And she published several papers on trace minerals including one entitled “What Place Have Aluminum, Copper, Manganese and Zinc in Normal Nutrition?”

I am currently meeting regularly with the subcommittees of the Food and Nutrition Board of the National Academy of Sciences to consider, among other topics: (1) the implications for human dietary requirements of the nature and digestibility of fiber and its effect on the absorption of other nutrients; (2) what figures to use for the percent of ingested iron that is actually absorbed, given the variety of factors that can affect iron absorption, and so on. That the problems have not *fundamentally* changed, that these matters are *still* at issue is a reminder of the difficulty of trying to understand how the chemically elaborate human organism interacts with food and what one observer has called its “zillion constituents.” Our quest for certainty is everlastingly thwarted by the refractoriness of the materials with which we work—foods and human beings.

As a result, those who seek biochemical certainty are now hoping to move nutrition science in a new direction. At the end of last year, the National Academy of Sciences held a symposium called “Frontiers in the Nutrition Sciences,” the motive for which was at least partly to ask ourselves why the best and brightest were not going into the field of nutrition. The answer seemed to be, if one listened carefully to the speakers, that nutrition had not remained up to date scientifically—that it had not allied itself with the frontier sciences—cell biology, molecular genetics, genetic engineering. We had passed through the excitements of the vitamin and mineral era (the era of Mrs. Rose). We had found ourselves center stage during World War II when nutritional well-being on the home front, night blind-

ness in fighter pilots, and starvation among friends and enemies alike were matters of national import, and brought nutrition to the forefront of people's attention. But by 1950, when I graduated from college, nutrition was not a field in which electrifying discoveries seemed to await the investigator. The excitement that Hegstad describes as infusing nutrition science in the 1930s was now found in cell biology. The last of the vitamins had been isolated in 1948. What was left in the 1950s and beyond seemed to be simply the mopping up process of "normal science."

But a third of a century later, at the 1987 NAS symposium, there was hope that the future could be brighter. Our contemporary tools would allow us, as one observer wrote, to identify even *in utero* individuals'

genetic susceptibility (or resistance) to the potentially adverse effects of specific nutrients and *to modify diets accordingly*. One can envision dietary recommendations being developed for major sub-populations of the general public and even for individuals.

Such a vision, those of you who are educators may have noticed, seems to have remarkably little connection with what goes on as people actually nourish themselves. We will identify the appropriate intake of nutrients, says this observer, "and modify dietary intake accordingly." That latter almost *en passant* phrase falls strangely on the ear of a nutrition educator who is conscious that most people's deep knowledge of calories does not comport with their level of calorie consumption. We already know more than enough to help people eat a lot more healthfully than they are now eating. We know, for example, that it is not postmenopausal women (whom calcium is probably too late to help) who ought to be in the midst of an osteoporosis hysteria, but teenage girls. They need to pack away calcium as fast as possible and are instead replacing milk with diet sodas. The public, whose dietary habits we are so casually urged to modify, is the very same public that is currently led by some mix of anxiety, advertising, and appetitive passion to rush out for chicken breasts from which the fatty skin has been carefully removed—and Haagen Dazs. Or, as *American Demographics* reported last month, 78% of women and 58% of men want to trim their weight, but over the past decade the percentage of adults who would like to see more "all-you-can-eat" specials in restaurants increased from 30% to 37% while the

number who want more "dieter's specials" declined from 18% to 16%.

Recently one of my colleagues testified before a Congressional Committee on the problems of making nutrition policy. *He* did not see the ideal future in using the tools of molecular genetics to specify individual diets. What he saw was that our efforts to make useful recommendations were drowning in overspecificity. "In this field," he wrote,

the search for biological truths has unfortunately become ever more focused and specialized, first upon individual groups of people then upon individual tissues, individual cells, individual sub-cellular particles, individual molecules, and even upon individual atoms....

We can now measure events far beyond our senses, then sort them out with ever more powerful computers. While such probing is absolutely essential to an *eventual* understanding of biological events, the data derived therefrom when standing in isolation cannot be used to construct dietary recommendations for large heterogeneous populations of people....And herein lies the frightening dilemma: the deeper we probe (in the absence of perspective) the less relevant becomes our research for making dietary recommendations.

In short, those of us who want to teach people how best to eat are not really going to be helped by molecular genetics. And while I am deeply sympathetic to the dilemma of the nutrition scientists, I am going to leave them here, torn between overspecificity and relevance, in order to get on with the real subject of my talk which is the dilemma of the nutrition educator. For the purpose of the preceding segue was to demonstrate that it is not progress in nutrition science that has so changed the nutrition educators' task since 1941. This is not to say that nothing worthwhile has happened in nutrition science. It is merely to point out that the actual food advice we can give people today is not very different from the food advice on a World War I food conservation poster hanging on the wall of my office. That is, what science allows us to say about a healthful diet hasn't really changed very much. So the truly wrenching changes, the ones that have made our task so difficult, come from elsewhere. I am going to talk about three of these changes, not because they are the only ones of importance (although I confess to thinking them the most important) but because they particularly interest me. These are changes in

the nature of the food supply, changes in the nature of humanity's relationship to the natural world, and changes in the role of women as it relates to both of these. I will begin with food.

I am not going to spend a great deal of time talking about the amazing American food supply except to explain to those of you who are ordinary eaters that what may seem obvious to you is a source of a great deal of tension and dissent in the nutrition community. Many "liberal" or "educated," or, as my colleagues would have it, "misled" consumers see the contemporary food supply as overwrought, over-processed and often unsafe. Nutritionists on the other hand are trained to be defenders of the food supply.

However alarming and unfamiliar the foods *look*, nutrition educators feel obligated, as honest professionals, to point out that life expectancy has continued to increase despite (or perhaps because of?) our industrialization of food and that the reason most of us die today of heart disease and cancer is because fewer of us die young of pneumonia, childhood diarrhea and tuberculosis, *not* because there is something demonstrably unhealthy about the foods our free enterprise system has produced. I would like, therefore, to bypass the issue of whether our food supply may be hazardous in some unspecified way and speak for a moment of the food supply as an intellectual problem, both for those nutrition scientists who had hoped to crack its secrets and for us nutrition educators.

The optimistic agenda Hegstad described—characterize the nutrients, characterize the foods, figure out how much people need of what and then teach them to eat it—probably seemed manageable when it was laid out, and it might have been manageable had the food supply not been transformed under the nutritionists' gaze. No scientist or educator could, in 1941, have anticipated what would happen to food even as they were teaching and learning about the functions of nutrients in the body.

The year Rose died, the same year World War II came home by way of Pearl Harbor, the first Recommended Dietary Allowances (the RDAs) were published. Although the group of nutritionists who took up the task felt they hardly knew enough to put down numbers for the quantities needed of the eight nutrients they included, they considered the task an important one that would allow for the planning of adequate war-time diets.

When the war began there were about 1,000 items in the aver-

age supermarket. They were not enriched or fortified or supplemented. They were not colored or flavored, although a few of them were shot from guns—puffed wheat and rice being among the earliest triumphs of the new food technology field. These products were not advertised on television because there was no television. There were no purple children's cereals enriched with purple marshmallows and the RDA of essential vitamins and minerals because there were, as I said, no RDAs and, until 1941, there was no enrichment even of bread.

Today there are from 15,000 to 20,000 items in a typical supermarket, and few native-born citizens, unless they are as old as I am, have ever seen a supermarket filled with actual food. (People from other countries have actually seen food.) Instead, the shelves are crammed with a rapidly changing array of "products"—8,000 new products last year, 1,031 in the month of May alone. The newest of these, the ones their manufacturers have really serious hopes for, are ardently promoted on television, often to children. Many of these food objects are artificially colored, flavored, reshaped and nutrified. Most of them are far-removed from any visible connection to the soil.

Sometimes what is available to eat (a frozen pizza, for example) *appears* to be familiar (flour, after all, comes from milling wheat; tomato paste comes from crushing vine-grown, processing tomatoes; mozzarella comes from milk; and the sausage comes from grinding up and curing various parts of an animal we would rather not think about). Increasingly, however, appearances are deceiving. The flour may be a mixture of soy and wheat restructured chemically in order to improve its functional qualities; the tomato paste may have been "extended" with colored starch; the mozzarella may be a vegetable oil imitation product; and the pepperoni may have been made—without animal contact—from textured soy protein. (They used to run ads on television for those fake sausages and bacon made of soy, and they always showed a farmer. I had a vision of him out there in his barn with his soy protein factory.) A recent article in *Prepared Foods* began, "The era of artificial foods seems to have arrived, and for products like shrimp, olives and black currants, it is becoming difficult to distinguish the man-made items from the real thing."

So one piece of the task nutrition science set itself—to specify the nutritional characteristics of foods—has run headlong into a food

supply increasingly made up of foods whose "zillion constituents," nutritional and otherwise, are being rapidly altered. Thwarting as this has been to nutrition scientists, it has been a nightmare for nutrition educators. How does one teach the typical time-constrained consumer about 20,000 items, many of which have the life span of fruit flies? Are these products all safe? If that means sanitary, most but not all of them are (as you know if you saw the "60 Minutes" story about those chickens floating in their own feces). Are these products nutritious? If that means, "Do they contain a certain percentage of nutrients we know about?" they may be. Are they wholesome? If this means, "Will they kill you before you leave the store?" of course not. If it means, "Will any random mixture of them support life?" of course not. Can we teach (with the questionable help of headlines from *The New York Times*) frightened consumers (who have read the same headlines) to feel safe with this ever-changing array of foods? It depends. Shall we urge our consumer advisee to purchase rapeseed oil (from which the toxic components have been removed) because it contains Omega-3-fatty acids, or are polyunsaturated soy, sunflower, or safflower oil better, or mono-unsaturated olive oil—or semisoft margarine, semisaturated by the manufacturer, or butter, semisaturated by the cow? And if the cookies and crackers the consumer buys to nibble with his diet soda are made with unlabeled, cholesterol-raising tropical oils, will this choice matter a damn anyway?

As I said before, Mary Swartz Rose took seriously her role as a nutrition educator and talked common sense to the public. What is common sense today and of what use is it in the modern supermarket? Sometimes the food supply seems to have made the job of the nutrition educator really impossible unless we teach—as many of us do—defensive shopping, hanging out around the margins of the supermarket where the breads, dairy products, meats, fruits and vegetables are kept and just staying away from the baffling middle altogether. I wonder what Mrs. Rose would have advised.

But let me move away from the wonders of the modern food supply and talk about food as a commodity, as a way of leading into the second change that has radically altered the nutrition educator's task: our changed relations with the biosphere. Several years ago, thinking about how food interacted with our so-called free enterprise system, I came to the conclusion that food differed in fundamental ways from other life essentials. The two other physiological essen-

tials, air and water, tend to be treated as free goods in our society; food does not. The two cold climate essentials, clothing and shelter, can be improvised in industrial societies from what other people throw away—a fact that is visible around the outskirts of every major city in the poor world (as well as over the heating vents of cities like our own). But food costs money and gets used up, literally consumed, and must be acquired every day.

Food is also different from other commodities we pay for in that we have a limited capacity to use it, even if we are willing to overeat, as a lot of us are, and even if we waste a lot, as many of us do. We cannot accumulate food as we can accumulate clothing, houses, or cars. It tends to spoil. If Imelda Marcos had been collecting food instead of shoes, she would have had a closet full of garbage. These facts—that food must be purchased regularly and that there is a limit to its accumulability—do suggest that food could easily be shared more equitably than it is, but that is another speech.

It is the third difference between food and many other commodities we trade around the world that I want to discuss today: namely, the fact that food is produced by nature with the help of humans. This being the case, it is essential for human survival that we preserve at least those natural systems essential in food production. It was environmental concerns that led me into nutrition in the first place. I came into the field fairly late in life with an underlying interest in ecological constraints on food production. Early on I began to ask what were the environmental limits on the total amount of food we could produce? The optimists were saying there were no limits to anything; I said, "Surely there is a limit to something, but what is it?" I made some early bad guesses about what we might run out of—topsoil water, energy to fix nitrogen—and settled on phosphates that we were pouring down sewers for years as detergents. (We now import 88% of our phosphates from the Middle East, and they're essential in plant growth.) But over time I came to believe that long before we ran out of anything material, we would run out of sustainability—that is, we would either overtax one of earth's productive systems like the ocean fisheries, or we would so pollute the air, the soil, and/or the water that nature would cease to provide what Paul Erlich has called "free services"—the cyclings of water, minerals, gasses, and so on that nature takes care of without our active attention.

It is much clearer now than it was 15 years ago when I began working on these issues that these global maintenance functions are being severely stressed. One need only read the headlines about the thinning of the ozone layer over the poles and the thickening of the CO₂ envelope that surrounds the earth to recognize that we are headed down a road at whose end there are no certainties except that things will change unexpectedly and more rapidly than we anticipate. Scientists urgently warn us that within the lifetimes of many people sitting here today, the earth will warm two degrees—a temperature change on a global scale larger than the total climate change since the last glacier retreated. Global warming will likely cause, among other effects, melting of the ice at the poles, which will raise sea levels and possibly inundate coastal communities. Warming also will seriously disrupt agriculture.

What does this mean a nutrition educator ought to do? I concluded many years ago that if we accepted as our task merely teaching about whatever came into the supermarket, we were acquiescing in activities that threatened our own and others' food-producing systems, and ultimately threatened our survival as a species. Since I reached that understanding, things have gotten generally worse and a new factor has been added to the destructive equation: the debt the poor countries owe us rich ones. "Although it is widely recognized that American banks face the prospect of collapse if debtors do not pay," economist Alfred Watkins has written, "it is less well understood that U.S. workers and businesses will lose jobs and markets if the Latin Americans try to pay."

Watkins is saying that as Latin Americans desperately try to earn foreign capital to pay just the interest on their immense debts, they will sell us anything they can produce at prices lower than our own cost of production, thus driving our own producers out of the market. What he fails to add is that in the course of doing this, the most vulnerable Latin American countries may very well destroy much of their own resource base. You all know about the disappearing jungles and the fact that beef we will eat is being grown where the tropical forests used to be. But the tropical forests help produce our climate; what is being destroyed is our biosphere. These countries have very little to sell to earn foreign capital; much of what they are selling is food. Thus, Dominican Republic peppers, and Haitian beef, and Guatemalan broccoli, and tropical products from all over the

poor world come flooding into U.S. markets, while many of the producers—the small farmers—go hungry. Even in the short term, then, food security does not appear to have been achieved by the workings of the so-called free market. The global supermarket which we have been promised (and whose promise *we* have realized) has not produced food security for the poor nor long-term security for us, for if they destroy their part of the biosphere, ours goes too.

The educational solution to this, I concluded some years ago, had to be to make people aware of where their food came from and of what their demand for food and other things was doing to our mutual life support system. And I concluded such awareness could only be achieved by relocalizing and reseasonalizing the food supply. I am a food producer, a serious horticulturist. And as I have, on occasion, sat watching my own crops perish from lack of rain, I have found myself astonished and enraged to hear the New York City weather forecasters celebrating the arrival of “another perfect weekend.” Such experiences tend to convince me that it will be very difficult to attract the attention of an increasingly urban world to the need to protect food producing resources—water, cropland, topsoil, farmer skills and so on.

I might be able to teach New Yorkers to worry about New York State farmland, but I think it will be nearly impossible to teach them to worry about protecting the farmlands of Brazil, or Mexico, or Haiti—or even California. Those lands will, in any case, have to be protected by the Mexicans, the Haitians, the Brazilians and the Californians who, if they have a vote at all, are certainly the only ones who have a vote on whether that land will be saved. If citizens are going to demand that their legislators pay attention to agriculture, I have concluded this can only happen if people in general become more aware of where their food comes from.

I also believe (and this is very much of an aside) that nature teaches humility, that a deep awareness of how nature works and how food grows may be essential for the re-humanization of the species. But that is another and much more profound topic that I will leave to those of my TC colleagues who are into philosophy and gardening.

Now I am very well aware that there are those who believe that all predictions that technology will not save us are premature, that things have worked out all right before as we moved further and

further away from our connections to the natural world. I would argue that they have not turned out all right, that many civilizations have died and that our civilization, being global, constitutes a more profound threat to the continued survival of the species than any civilization that preceded it. I know the arguments of the technological optimists; I have confronted them on many occasions. I wish I could share what I believe to be their biological naiveté because it would be a much more comfortable position. I do not have time today to take up that debate, but I want to lay out (just so there won't be any misunderstanding) my own underlying assumptions as I have laid them out in a paper that I prepared for a Washington State University forum on the future of agriculture. I am not going to defend these assumptions; I am simply going to lay them out. We can discuss them later over what I hope will be some New York State food.

My first assumption is that smaller scale, more localized food systems are inevitable. I believe that human beings cannot escape—as we have tried to do over the last centuries—being a part of nature. The oceans off New Jersey are killing dolphins, New York's garbage is being sent on round-the-world tours, some of California's best croplands are salting up, and [we are] losing topsoil at an unsustainable rate. These are but a few of many signs that we humans are hitting up against some outer limits.

The system of which these particular excrescences are symbolic, the thrust toward gigantism and waste in our economic life with its built-in indifference toward whatever we designate a 'side effect'—this system is out of control. We have no evidence at all that the part of the system represented by large-scale industrial agriculture is sustainable over the long term and we have much evidence that it is not. Moreover, we have no evidence that this hyperproductive agribusiness system will ever be able to accommodate itself to the interlocking, natural cycles on whose continued operation we are dependent for survival.

I believe that a system involving smaller farms more adapted to local conditions, more responsive to local climate and topography, less polluting of the land, the food, the water, is *inevitable*. But whether such a system will emerge slowly as we make a rational transition to sustainability or whether a few remnant arms will be there for us to emulate after the economic/ecological collapse toward which business as usual is driving us, that is a question none of us can presently answer. That is my first assumption.

My second assumption is this: I believe that all things consid-

ered, the only sort of diet it is possible to recommend and teach over the long term is a diet made up of a variety of minimally processed, whole foods (the majority of them not animal products) that have been minimally exposed to pesticides, preservatives, processing aids or other nonfood chemicals added either inadvertently or intentionally.

Now if you have been paying attention, you will have noticed that my two assumptions mesh nicely. The agricultural system I believe is inevitable if we are to survive in the long run would be capable of providing us with the kinds of diets that look to be both most wholesome and most widely teachable. If you believe that parsimony is evidence of truth, then my assumptions are supported by the elegance with which they solve two or more problems at once. If you believe that 'consistency is a hobgoblin of small minds,' you may disagree.

So much for the survival of the species. I have now explained to you how I think the changed nature of the food supply has changed the task of the nutrition educator and how I believe the ecological crises we face—the Global Problematique as it has been called—has also changed our task. What I have yet to touch on is why I put women in my title. What does the changed status of women have to do with the food supply, the role of the nutrition educator, or the survival of the species?

My short answer to that question will undoubtedly offend all of the men in the audience who believe the talk of male and female characteristics and inequality is both irrational and confrontational. My short answer is that we have gotten into the mess we are in with food and with the biosphere because we have at worst demeaned and at best consistently undervalued those very traits in humans that might save us—attention to maintenance activities, respect for nature, frugality and community—and rewarded instead creation and construction, dominance over nature, wastefulness and individualism. The qualities we have undervalued are those which society has tended to assign to women.

I don't know whether women are by nature or merely by dint of long practice more nurturing than men, but one need look no further than this university to notice that the caring professions—feeding, nursing, teaching—are predominantly assigned to women. One need not argue that men actively seek power over things in order to notice they have achieved it. One need not believe that there was a conspiracy to reward most highly certain kinds of thought and

achievement "natural" to men to recognize that only certain kinds of thought and achievement are rewarded in a valuing system that is largely controlled by men. "She is a nice person" is a pat on the head, not on the back. "She is a good teacher who takes care of her students' needs" is a coin of little value in the slot machine of reward.

But although I do believe the world is suffering greatly from its sexism (as well as from its racism), I am not convinced that what we suffer from is testosterone poisoning. I have a husband and two sons whom I love and value and I am really not convinced that it is men's *fault*. I think the value system we have somehow created and are now exporting around the world is creating an unhappy choice for men between humanness and success. And what worries me is that women will come to believe that they can only succeed by adopting the qualities that are valued—however destructive those qualities are to the ultimate survival of the species.

That is my short answer. It was long enough that I will try to make my long answer short. I myself did not understand how changes in women's roles had changed the task of the nutrition educator until I began to go out and talk to my colleagues about my growing conviction that we needed to work to relocalize the food supply, encouraging the use of more seasonal, local food. What seemed immediately obvious to everyone but me was that I must be against women's liberation. If we were to make use of fresh, seasonal foods, they pointed out, someone would obviously have to go back to the kitchen and slave over a hot stove; rumors of equality notwithstanding, it seemed clear to my female listeners who that someone would be.

My listeners, like most women, had bought into the notion that progress in the food system consisted in having as little contact as possible with raw food materials. Convenience foods were, after all, convenient, weren't they? At least some of those thousands of clever items in the supermarket were obviously designed to save time and effort for women who wanted (or, increasingly, needed) to go out into the market economy. These women did not intend to return to the household, however much I might tell them the biosphere depended on it.

Challenge is a spur to investigation. Was all this true, I asked myself. Did women really hate to cook? And although I do not have

time to talk much about my research today, my students and I have begun examining in various ways the notion that the wonders of the U.S. food supply have indeed benefited women. I do not have time to do anything more than give you five pieces of information from our studies because I think you need to hear them in light of the pervasiveness of the myth:

One: All available studies show that there was no significant decline (meaning no more than 12 minutes a day) in the amount of time women devoted to food-related chores in the 50 years between 1929 and 1979, a period when the number of food items of presumably increasing convenience expanded from 800 to 12,000.

Two: Women's out-of-home employment patterns appear to have no demonstrable relationship to the introduction of convenience foods. Convenience foods underwent their greatest proliferation right after World War II when women were being urged to go home and cook so there would be jobs for the returning GIs. Women worked in record numbers during the war when most foods were not "convenient."

Three: Valerie Kincaid Oppenheimer, who studied women's labor force participation in relation to the availability of household conveniences, concluded that women were not pushed from the household by freed-up time but pulled out of it by the availability of "occupations requiring skill but not long-range commitment, specialized location or high remuneration"—that is, women did not join the labor force because convenience foods were available.

Four: There is no evidence at all that women who work outside the home use more convenience foods than women who work inside the home—that is, are "unemployed"—despite several studies designed to show the effect of paid employment on convenience food usage; and finally

Five: Women have been subjected in women's magazines and elsewhere to a major marketing endeavor starting shortly after the turn of the century designed to induce them to give up cooking and use "convenience" foods. Women who could not cook were seen—to quote one marketing executive—as "advancing civilization." This went on with special vehemence all through the Great Depression when women did not have paying jobs that kept them busy elsewhere, and the propaganda continues today. And although evidence is entirely lacking, as the above makes clear, that food processors

have really helped “liberate” women from the kitchen, they may have effectively de-skilled women to the point where they lack the ability to convert raw food ingredients into something that can nourish body and soul. We are, after all, into a generation to whom an advertiser can say, as one of my students pointed out, this “comes in a package just like the one grandmother used to open.” So we are beyond the second generation of Minute Rice users, into a third generation of convenience food “cooks.”

Women in the nutrition profession, like women everywhere, have tended to buy into the “convenience food” myth, and they have had an even more powerful motive for fleeing any direct association with food and its preparation. Although the very first nutrition scientists were women—it is no accident that Rose was the first professor of nutrition in the United States—their dominance came about because nutrition was an applied field that had much to do with advising women on domestic matters, a task unfit for men. Once nutrition no longer had to be an applied field, male scientists took over, setting up high status departments of nutrition in high status colleges and leaving women in the increasingly less prestigious field of home economics. In 1921, *American Men of Science* listed no men in nutrition. The 20 nutrition scientists listed in *American Men of Science* were all women. By 1938 there were 225 men in the field and women’s representation had dropped from 100% to 42.4%, the only scientific discipline in which the proportion of women fell rather than rose over the period.

Thus, while women were making small but steady inroads into other scientific fields, they were being shunted aside in nutrition once the white rat feeding model and the isolation of micronutrients fragmented food into scientifically manageable pieces. Women in nutrition have not been blind to the fact that status in this field, as in others, does not come from nurturing but from analyzing, an awareness that a single anecdote may make vivid. At its 1982 meeting, the Society for Nutrition Education was debating a membership resolution to change our name to the Society for Food and Nutrition Education. One member stood up and strongly objected to putting the word “food” in our professional organization. Women in university departments of Home Economics, she said, were having a hard enough time being taken seriously. We had almost managed to shed the “cooking home-ec” image; let’s not blow it by associating our professional

organization with the word "food." We didn't. The resolution was voted down.

So food became for women in households a symbol of kitchen slavery, and food became for professional nutritionists a symbol of their less valued status. Women's most intense relationship with food today is as a feared source of calories. Since that left no one but food manufacturers watching over the food supply, all of us have become increasingly dependent on "man-made" foods, as control over our eating has fallen into the hands of giant corporations which move foods all over the globe heedless of local needs and as I have indicated earlier heedless of global sustainability.

As I hope my earlier discussion made clear, I believe that assuring ourselves of a reliable supply of food into the future will require us to take more personal responsibility for our food, paying attention to where it is grown, who grows it, at what cost to the environment and at what cost in non-renewable resources. Even though progress appears to have been defined as having less and less to do with raw food materials, we will have to reverse that trend. It is clear that some of the people who will have to help redefine progress, who will have to help us take the responsibility of paying more and, not less, attention to food will have to be women. And some of them will have to be men. For women cannot be asked to help restore the structure of caring, both for nature and for ourselves, so long as such activity remains generally undervalued.

In a column some months ago, reporting on the fact that a women's alliance had won 6 of 63 seats in the Icelandic Parliament, Ellen Goodman repeated a conversation she had just had with one of the new seat holders. "Our main interest," Gudrun Agnasdottir said, "is to improve the status of women. We ask for a changed set of values so that looking after people is equally well-respected and well-paid as looking after machines and money."

I have urged my colleagues in the nutrition field to begin reasserting the importance of food. Where food comes from, who gets it, and who does not, who knows how to transform it into something tasty and life-giving—these are significant matters. We who are professionals must pay attention to food growing and food preparation, to cooking and compassion, and we must insist that these concerns are not afterthoughts in the current nutrition and health fad, but right at the center. Our society is eating in a manner that is neither socially

just, ecologically rational or nutritionally optimal. If we hope to survive, we must urge our fellow humans of both sexes to pay more attention to the true cost (and not merely the price) of what they are eating.

In trying to find some way to bring this endless talk to an end, I went to a collection of Rose's papers that I have at home. The last paper in my collection was entitled "The Banana as a Food for the Aged." It was, I thought, a striking symbol of how times have changed. In Rose's time, people could not sit in front of their TV's drinking diet soda and watching other people starve. Although the pain we half-knowingly inflict on the have-nots may have been just as intense then, it was surely less immediately visible. I suspect, though I do not know, that in Rose's time one's choice of what to eat would not have been viewed as making a political statement. Now I believe that food is often very political, or can be. I gave up buying bananas about five years ago because, knowing how and where they were grown, I felt I could not buy a politically or ecologically acceptable one. I don't know whether that's what Mrs. Rose would do if she were alive today; I like to think she would at least approve of my doing it.

P. Michael Timpane

Joan, as always and in a sense which goes far beyond the biochemical, you have nourished us today.